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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,002	04/12/2004	Heung-sup Jeong	101-1030	1578

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EXAMINER

CHEN, SOPHIA S

ART UNIT	PAPER NUMBER
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2852

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/822,002

Applicant(s)

JEONG ET AL.

Examiner

Sophia S. Chen

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 15, 16, 18, 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 6-14, 17, 19-21 and 24-27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/24/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because the reference numeral "613" (the one on the right-side) of Figure 16 should be labeled as "614".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
 - a. Page 8, paragraph [0056], line 2, "I - I" should be "I - I".

b. Page 12, paragraph [0071], line 5, "20" should be "200".

Appropriate correction is required.

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claims 8 and 12-26 are objected to because of the following informalities:

a. Claim 8, line 5, "bossto" should be "boss to".

b. Claim 12, line 6, "beinginterfered" should be "being interfered".

c. Claim 15, line 9, "the plurality of development units" should be either "the development unit" or "a plurality of development units".

d. Claim 24, line 3, "doorto" should be "door to".

e. Claim 24, lines 5-6, "the development unit" should be "a development unit".

Appropriate correction is required.

Claim Rejections – 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 15, 16, 22, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. (US Pat. No. 6,501,925)

The patent discloses an electrophotographic printer comprising: a main frame (enclosure) 200; a photosensitive drum unit 22 having a photosensitive drum 1a, 1b, 1c, or 1d and vertically (the first direction) detachably installed on the main frame 200 (Figure 5); a plurality of development units 5a through 5d each having a developing roller 37 and detachably installed on the main frame 200 while sliding in a horizontal direction (a second direction) (Figures 5, 7, and 11); a first door (no reference numeral assigned; Figure 5) installed to open and close a portion of the main frame 200 to mount or dismount the plurality of development units 5a through 5d on the main frame 200 through the side of the (main frame) housing(column 16, lines 8-10 and Figure 5); a second door (no reference numeral assigned) installed on the housing 200 to open and close the top of the housing 200 to allow the photosensitive drum unit 22 to be mounted on and dismounted from the main frame 200 through the top of the housing 200 (Figure 5); the first and second directions are perpendicular to each other to reduce a mounting stroke of the photosensitive drum unit 22 (Figure 5); and the photosensitive drum unit 22 and the development unit 5a are not simultaneously mounted on and dismounted from the main frame 200 (column 16, lines 4-10; since the doors do not have to open simultaneously, it is inherently that the drum unit and development unit are not simultaneously mounted on and dismounted from the main frame.)

Claim Rejections – 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2-5 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. in view of Kim (US Pat. Pub. No. US 2004/0096240 A1).

Yamamoto et al., as discussed above, further discloses the development unit is pushed inside with an appropriate load when the door is closed (column 16, lines 16-19).

Yamamoto et al. differs from the instant claimed invention in not disclosing a pressurizing unit to elastically push each of the plurality of development units toward the photosensitive drum and a retracting unit.

Kim discloses an electrophotographic printer comprising a door 210 installed to open and close a portion of the main frame to mount or dismount a plurality of development unit 130 on the main frame; the door 210 comprises a pressurizing unit 200 to elastically push each of the plurality of development units 130 toward the photosensitive drum 100 (paragraph [0025]; Figures 4, 5, and 6); a retract unit (also the pressurizing unit) 200 to retract at least one of the development units 130 being positioned above a center of the photosensitive drum 100 in associated with an opening operation of the door 210 to position at which the development unit 130 does not interfere with the photosensitive drum 100 (Figures 4, 5, and 6); the door 210 is opened

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to either a first opening position (slightly opened) or a second opening position (widely opened), and when the door 210 is opened from the first opening position (slightly opened) to the second opening position (widely opened), the retracting unit 200 retracts the at least one of the development unit 130 being positioned above the center of the photosensitive drum 100 to a position at which the at least one of the development units 130 does not interfere with the photosensitive drum 100 (Figures 4, 5, and 6); and the retract unit 200 comprises a first connection unit (Figure 5; no reference numeral assigned; the end of spring 200 that connects to the development unit 130) provided in each of the development units 130 and a first member 200 having a second connection unit (Figure 5; no reference numeral assigned; the other end of the spring 200 that connects to the door 210) coupled to the first connection unit and sliding in a direction in which the at least one of the development units 130 retracts in association with an opening operation of the door 210 (Figure 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the pressuring/retract unit as taught by Kim to the first door of Yamamoto et al. to stably maintain a relative position between a photosensitive drum and a developing roller (Kim, paragraph [0011]).

Allowable Subject Matter

9. Claims 24-27 are allowable over the prior art of record; however, it is found to be objectionable for the reasons specified above.

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10. Claims 6-14, 17, and 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other Prior Art

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Haneda (US Pat. No. 5,537,188) discloses an image forming apparatus comprising a plurality of doors for mounting/dismounting a drum unit and a development unit.

Fukunaga et al. (US Pat. No. 5,742,319) discloses an image forming apparatus comprising a first door and a second door for mounting/dismounting a plurality of development units and a drum unit.

Nagase et al. (US Pat. No. 5,752,133) discloses an image forming apparatus comprising a developing unit is withdrawn from a photosensitive drum when a cartridge being attached to or detached from the apparatus body.

Ishizawa (US Pat. No. 6,104,897) discloses an image forming apparatus comprising a mechanism for preventing a development from colliding against a photosensitive drum when the development unit is incorporated into a body of the apparatus.

Shiraishi et al. (US Pat. No. 6,125,251) discloses an image forming apparatus comprising the front and side covers being given an order of opening and closing.

Asuwa et al. (US Pat. Pub. No. US 2004/0085431 A1) discloses an image forming apparatus comprising a photosensitive drum unit being vertically detachably installed; a plurality of development units being horizontally detachably installed; a first door for mounting or dismounting the plurality of development units; and a second door for mounting or dismounting the photosensitive drum unit.

Kimura et al. (US Pat. Pub. No. US 2004/0101328 A1) discloses an image forming apparatus comprising a plurality of doors for mounting/dismounting different units.

Hamanaka (JP 2000-347473 A) discloses an image forming apparatus comprising a photosensitive belt unit being vertically detachably installed; a plurality of development units being horizontally detachably installed; a first door for mounting or dismounting the plurality of development units; a second door for mounting and dismounting the photosensitive belt unit; and the second door cannot be opened without opening the first door (not the first door cannot be opened without opening the second door).


Nakamura et al. (JP 2001-209229 A) discloses an image forming apparatus comprising a photosensitive drum unit being horizontally detachably installed; a plurality of development units being vertically detachably installed; a first door for mounting or dismounting the plurality of development units; a second door for mounting and dismounting the photosensitive drum unit.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sophia S. Chen whose telephone number is (571) 272-2133. The examiner can normally be reached on M-F (7:00-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sophia S. Chen
Primary Examiner
Art Unit 2852

Ssc
November 21, 2005